



John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Craig W. Butler, Director

**February 29, 2016**  
**Preliminary Finding of No Significant Impact**  
**Akron Main Outfall Relief Sewer**  
**WPCLF CS390095-012**

The attached Environmental Assessment (EA) is for a wastewater treatment project in your area which the Ohio Environmental Protection Agency intends to finance through its Water Pollution Control Loan Fund (WPCLF) below-market interest rate revolving loan program. The EA describes the project, its costs, and expected environmental benefits. We would appreciate receiving any comments you may have on the project. Making available this EA and seeking your comments fulfills Ohio EPA's environmental review and public notice requirements for this loan program.

Ohio EPA analyzes environmental effects of proposed projects as part of its WPCLF program review and approval process. We have concluded that the proposed project should not result in significant adverse environmental impacts. More information can be obtained by contacting the person named at the end of the EA.

Any comments on our preliminary determination should be sent to me at the letterhead address. We will not act on this project for 30 calendar days from the date of this notice in order to receive and consider comments. In the absence of substantive comments during this period, our preliminary decision will become final. After that, Akron can then proceed with its application for the WSRLA loan.

Sincerely,

A handwritten signature in purple ink that reads "Jerry Rouch".

Jerry Rouch, Assistant Chief  
Division of Environmental & Financial Assistance  
Office of Financial Assistance

JR/dh

attachment

## ENVIRONMENTAL ASSESSMENT

### A. Project Identification

Name: Akron Main Outfall Relief Sewer

Address: Travis Capper, PE  
Akron Engineering Bureau  
166 South High Street, Room 701  
Akron, OH 44308

WPCLF #: CS390095-0127

### B. Proposed Project

#### 1. Summary

The City of Akron in Summit County has requested approximately \$25,504,000 from the Ohio Water Pollution Control Loan Fund (WPCLF) to improve its sanitary sewage system by expanding the capacity of the Main Outfall Sewer, the pipe that carries the city's entire sanitary flow to the Water Reclamation Facility (WRF; wastewater treatment plant).

This project will increase capacity in, and enhance structural integrity of, the existing Main Outfall Sewer by constructing a larger concrete cap on the sewer between the Water Reclamation Facility and Weathervane Plaza, approximately 7,800 linear feet. The project, which will reduce anticipated surcharging due to upstream combined sewer overflow elimination projects that will increase flow in the Main Outfall Sewer, is required under the city's Combined Sewer Overflow (CSO) Long-Term Control Plan (LTCP) as approved by the U.S. Environmental Protection Agency (USEPA) and federal Consent Decree.

All work will be on and immediately adjacent to the Main Outfall Sewer and require tree clearing (as authorized by the U.S. Fish and Wildlife Service to protect endangered bat species) and temporary rerouting of the multi-purpose Towpath Trail and traffic detours. Akron has instituted a multi-year sewer rate increase to pay for this and the other CSO projects.

#### 2. Project Background

##### a. History and Existing Conditions

Much of the older area of Akron has combined sewers, pipes that in dry weather carry sanitary sewage only, and during wet weather carry sanitary flows combined with storm drainage to the WRF. When flows rise dramatically and fill the combined sewers during

and after rainfall, combined sewer overflow (CSO) structures (“racks”) divert untreated sanitary sewage mixed with storm water to area streams, threatening human health and aquatic life.

Due to these historical and ongoing CSO events and partial treatment bypasses from the WRF to the Cuyahoga River, Akron is subject to a federal Consent Decree that requires, among other improvements, controlling CSO structures throughout the sewer system and minimization of overflow events. This project and others will control CSO racks throughout the city’s sewer system and keep the mixed sewage and storm water in a pipe rather than directly discharge it to streams.

The Main Outfall Sewer dates to the late 1920s when Akron planned to replace its wastewater treatment plant on the Little Cuyahoga River upstream of the Cuyahoga River with a larger plant along the Cuyahoga about four miles downstream. Wastewater flow by gravity could continue from the sewers draining to the original plant to the new plant. The existing sanitary sewer interceptor was extended to the new location and constructed in the channel of the abandoned Ohio and Erie Canal. Remaining canal locks that interfered with the sewer construction were fully or partially removed. The 90-inch tall, 144-inch wide sewer was constructed in two contracts, the southernmost of cast-in-place concrete ending at what is now Weathervane Plaza; the northern contract, running to the WRF, was for a concrete sewer base with three-ring brick arch cap, which is largely in place as constructed.

The LTCP and Consent Decree collectively direct the city’s efforts to eliminate CSOs and ensure the sewer system can handle expected flows without structural failures or overflows to area streams. USEPA, concerned that the age and capacity of the Main Outfall Sewer posed an unacceptable risk of surcharging and overflows as normal flows increase, initially required Akron to construct a parallel relief sewer to safely manage high flows.

A comprehensive inspection of the Main Outfall Sewer, much of which is above-ground, showed the pipe to be in fair condition and identified significant defects: deteriorating brick surfaces or surface concrete delamination, root intrusions into mortar joints, delamination of previous concrete and repairs at manholes and joints, deterioration of aluminum collar repairs, misalignment of joints, and deteriorated manholes. Supporting structures are in fair condition, with the major defect being weathered concrete. The condition assessment and evaluation of structural and operation and maintenance defects found no immediate risk of sewer failure and concluded that repairs combined with ongoing sewer maintenance and inspection can maintain the Main Outfall Sewer in use indefinitely.

As Akron’s consultants evaluated feasible alternatives for the required parallel Main Outfall Relief Sewer, to ensure that the projected increased flows remain contained until discharged into the WRF, Akron demonstrated by constructing an enlarged, reinforced concrete cap on 300 feet of the Main Outfall Sewer that capping the entire length would

be feasible and achieve the same goals as constructing the costlier relief sewer. USEPA evaluated and accepted the test results and approved changing the LTCP to allow modifying the Main Outfall Sewer instead of constructing the relief sewer.

#### b. Population and Flow Projections

The project drainage areas are developed and Akron expects no significant population or economic growth in the project drainage area. The existing sanitary sewers are appropriately sized for the present and expected future flows in accordance with the approved Clean Water Act Section 208 facilities plan (a regional approach for ensuring cost-effective sewage collection and wastewater treatment). This proposed enlarged Main Outfall Cap will increase the pipe's capacity to safely carry the projected increased flows in the system that otherwise historically had been overflowed into area streams.

#### c. Water Quality

The Cuyahoga River is adjacent to the Main Outfall Sewer in the project area and would be impacted if the sewer experienced structural failure and discharged sewage. The Cuyahoga River is designated as Warmwater Habitat (WWH) in the Ohio Water Quality Standards, based on the river's physical features. Chemical and biological measures of the river downstream of Akron historically have been fair to very poor due to the impacts of combined sewer overflows and the legacy of industrial discharges. River health has steadily and significantly improved in recent decades as CSOs have been increasingly controlled and the river naturally recovered from toxic conditions of the 1900s. Most of the river downstream of Akron is in "partial attainment" of the WWH criteria with some segments showing high biological diversity and one segment fully attaining the WWH criteria. Bacterial contamination due to CSOs prevents the river from attaining its Primary Contact Recreation criteria.

### 3. Discussion of Feasible Alternatives

Because the LTCP requires modifications to the Main Outfall Sewer to prevent surcharging or overflows, doing nothing (the "no-action" alternative) would lead to additional legal action by USEPA against Akron with additional costs and is therefore not feasible.

The LTCP originally stipulated a parallel relief sewer with capacity of 180 million gallons per day (mgd), which, with the Main Outfall Sewer operating with a flow contained in the concrete base, would provide a total capacity of 280 mgd. Akron focused its alternatives evaluation on two alignments for a cost-effective 6-foot by 12-foot box culvert gravity sewer (one immediately to the west of and adjacent to the Main Outfall Sewer and one immediately to the east and adjacent) and further evaluated the option of modifying the Main Outfall Sewer for additional capacity and enhanced structural integrity by constructing a larger cap over the pipe to meet the intent of the LTCP and effectively convey the full flow capacity.

Both parallel relief sewer alternatives propose constructing a relief sewer adjacent and parallel to the Main Outfall Sewer (on either the west or east side) with a new diversion structure at the upstream end to split flow into the Main Outfall and the parallel sewer. Two separate sewers would continue from the diversion structure, cross the Cuyahoga River on a new sewer bridge, and enter the WRF. The parallel sewer could be constructed while the Main Outfall is in service.

The capping option initially evaluated would remove the existing brick cap and replace it with a larger, concrete cap. The cap could be constructed while the Main Outfall is in service and requires no diversion structure. Evaluation of the existing sewer bridge over the Cuyahoga River showed the structure in acceptable condition. The 300-foot test construction of this concept showed that it was costly to remove the brick cap and environmentally risky to assume sewer flows would remain in the concrete base until each span of new cap was installed; otherwise, sanitary sewage could periodically escape into the nearby Cuyahoga River during construction. A proposed modification to the capping alternative, constructing a reinforced, pneumatically-placed concrete cap on the existing brick arch at a significant cost savings, would achieve the same goals as the original capping option, and was approved by USEPA.

Each of the alternatives would involve construction activity in regulated wetlands and one to three perennial streams.

#### 4. Selected Alternative

Although the original capping option as described above was in the mid-range of costs in the planning comparisons, it had fewer non-economic costs, and involved fewer changes to the landscape and adjoining land uses than either relief sewer alternative. The much lower cost of the proposed concrete replacement cap arch over the existing brick arch, authorized by USEPA, with the same or fewer non-economic costs, made it the selected alternative. The as-bid construction cost estimate is approximately \$18,000,000 for construction of a concrete mortar cap with auger-cast pile foundations on both sides of the existing Main Outfall Sewer for approximately 7,800 linear feet from the WRF to near Weathervane Plaza (Figure 1).

Besides constructing the foundation piles and cap, the project will

- repair spalled (surface flaking) concrete of the concrete base;
- modify 15 manholes on the existing sewer to accommodate the new cap;
- fill void areas under the concrete base with low strength mortar;
- coat all new concrete surfaces with non-epoxy sealer;
- maintain Towpath Trail pedestrian and bicycle traffic and road traffic with detours;
- eliminate the middle pier on the existing concrete box sewer bridge over the Cuyahoga River; and
- repair spalled concrete on the bridge and seal all exposed concrete with non-epoxy sealer.



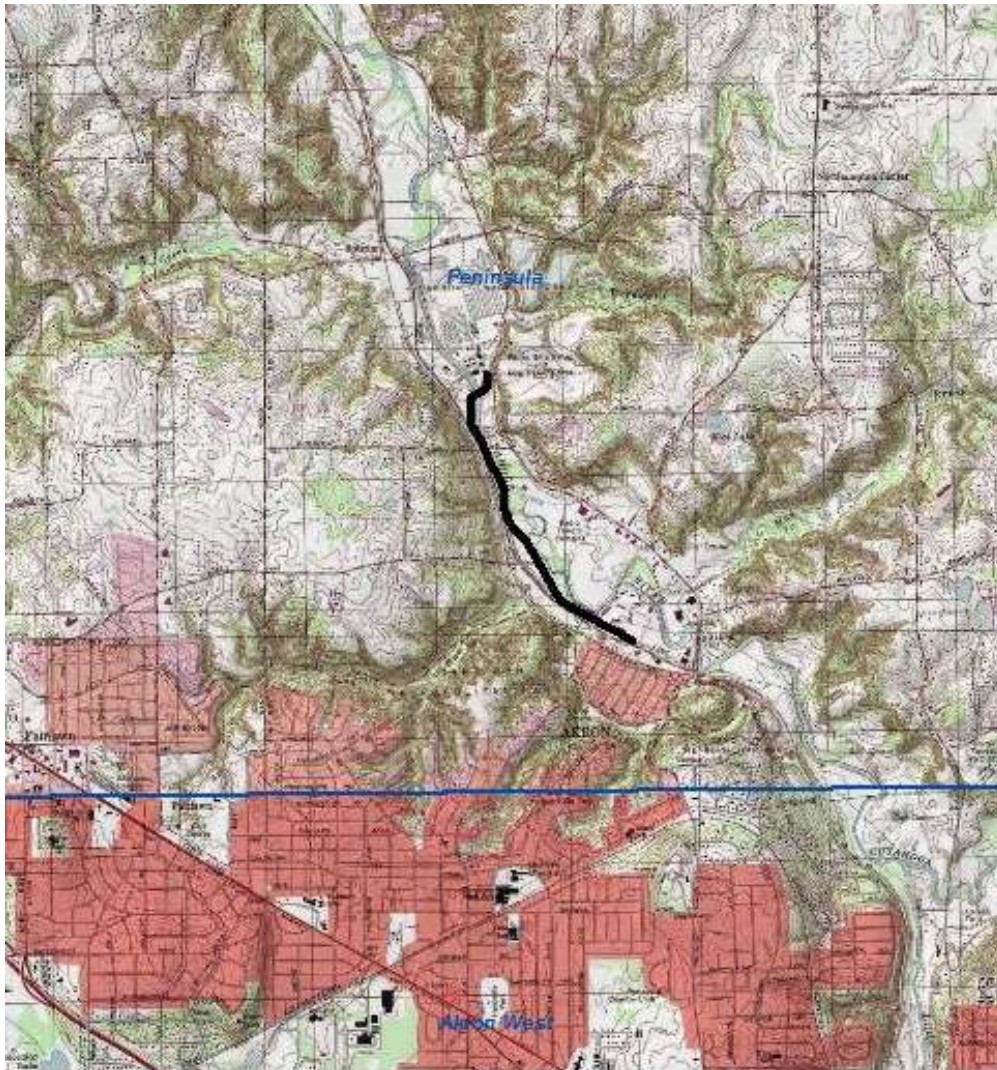


Figure 1 – Project Location

## 5. Project Implementation

Akron will borrow approximately \$25,504,000 from the WPCLF at the standard interest rate for extended-term financing (now 2.05%; the rate is set monthly and may change for a later loan award) to cover construction and design costs. During the 30-year loan period, Akron will save approximately \$9,564,000 by using WPCLF dollars at this rate, compared to the market rate of 3.30%.

Assuming a March 2016 loan award and immediate construction start, construction will be complete in late 2017 to meet the Consent Decree deadline.

### C. Environmental Impacts of the Proposed Project

This project could directly affect environmental features. Because the project is designed to ensure safe and efficient conveyance of existing sanitary flows by modifying the existing Main Outfall Sewer, rather than provide additional capacity in the wastewater system for growth, the project is not expected to lead to new development or associated indirect or cumulative impacts and will not affect local topography, agriculture, land use, local aesthetics, or regional energy use.

In the southern, upstream project area, the Main Outfall Sewer parallels the Cuyahoga River regulatory floodplain; the northernmost, downstream span is in the floodplain and the river crossing bridge piers are in the river. The local floodplain administrator determined that neither the proposed sewer cap nor the proposed bridge modification would affect flood levels.

Regulatory wetlands and aquatic habitats exist in the project area. Akron received a Nationwide Permit 3 (Maintenance) from the U.S. Army Corps of Engineers authorizing limited impacts to waters of the United States for temporary construction fill in wetlands and streams. A bivalve (freshwater mussel) survey of the Cuyahoga River in the vicinity of the sewer bridge found two individuals in the defined salvage zone (area of construction impacts), which were relocated to suitable upstream habitat. The findings reflect the limited suitable habitat in that portion of the river. Otherwise, the project will have no significant impact on other surface water resources or on ground water resources.

A terrestrial habitat survey in the project area found summer roosting habitat for the *endangered* Indiana bat and the *threatened* northern long-eared bat. The U.S. Fish and Wildlife Service concurred with Akron's proposal to remove trees between October 1 and March 31 when bats are presumed absent ("seasonal clearing"), which would avoid adverse impacts to the listed species. The project area lacks suitable habitat for the *threatened* northern monkshood (cool, moist, shaded cliff faces or talus slopes in wooded ravines, near water seeps), and is therefore unlikely to impact this plant species.

Summit County air meets standards for four of the six regulated air pollutants (carbon monoxide, sulfur dioxide, nitrogen oxide, lead) and is not in compliance with particulate matter and ozone. This project will add no air pollution sources, although airborne dust from limited soil disturbance will be controlled with water or other benign dust suppressant, and construction vehicle exhaust will mingle with that from vehicles regularly transiting the project area. For these reasons, the project should have no significant adverse short-term or long-term impacts on local air quality.

The project is designed to minimized impacts to the public. Local noise levels may increase temporarily during construction. Motorized vehicles will be audible and join the

background traffic noise from adjacent roads. Because the Towpath Trail is adjacent to the Main Outfall Sewer and will be part of the active construction zone, it will be detoured onto adjacent Riverview Road, which will be closed to through vehicular traffic to ensure safety for Towpath Trail users and detoured as shown on Figures 2 and 3. Besides these traffic safety features, the active construction zone will be fenced and otherwise limit unauthorized public access and foreseeable threats to public safety.

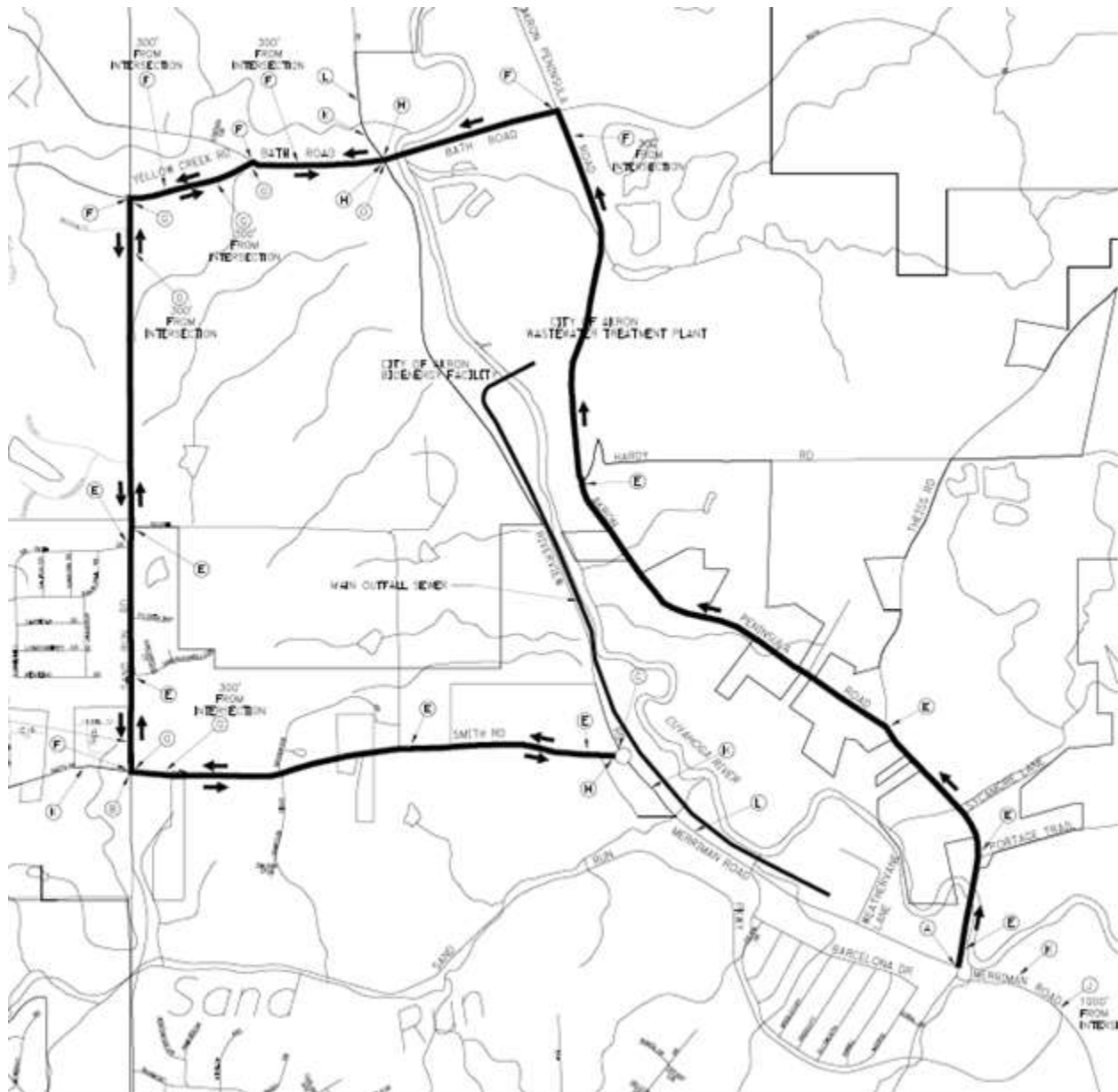


Figure 2 – Traffic Detour Plan



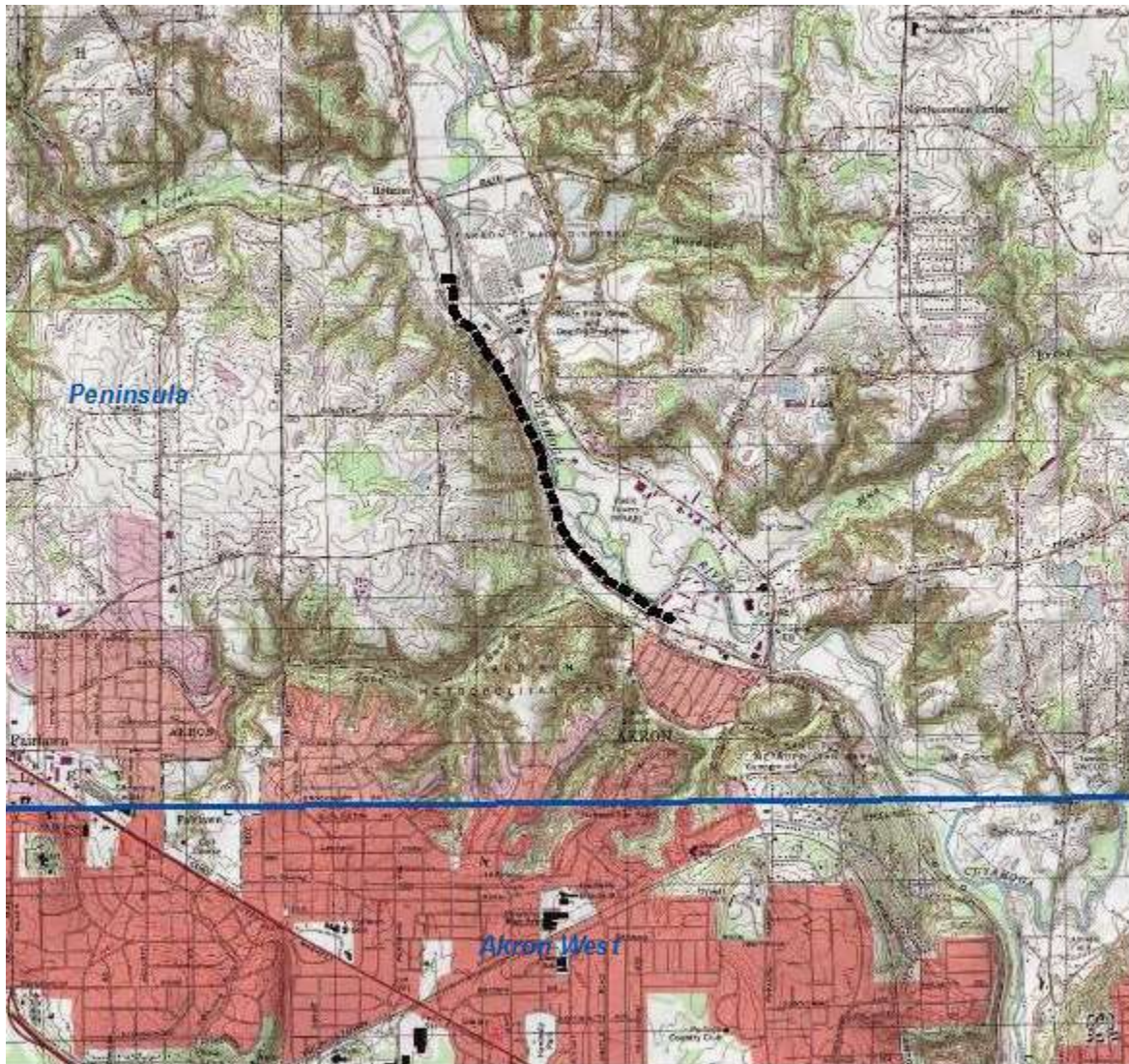


Figure 3 – Towpath Trail Detour Plan

As part of project development, Akron coordinated archaeological and historical resources surveys of the greater project area. The Valley Railroad Historic District, the Ohio and Erie Canal, and Lock 23 are properties eligible for listing in the National Register of Historic Places. Remains of Lock 23 are buried beneath the Main Outfall Sewer. The State Historic Preservation Office concurred with Akron's proposal to monitor the project activity at Lock 23 to ensure no additional historical resources are uncovered. The Valley Railroad Historic District and the Ohio and Erie Canal (except for the Lock 23 monitoring) will be unaffected by this construction.

In the event of archaeological finds during construction, Ohio Revised Code Section 149.53 requires contractors and subcontractors to notify the State Historic Preservation

Office of any archaeological discoveries in the project area, and to cooperate with the Office in archaeological and historic surveys and salvage efforts when appropriate. Work will not resume until a survey of the find and a determination of its value and effect has been made, and Ohio EPA authorizes work to continue.

Akron has instituted multi-year sewer rate increases to pay for this and the other CSO projects required in the LTCP and Consent Decree and that have firm deadlines for completion. The typical residential annual sewer bill in Akron and other served communities is \$1,150, which is approximately 2.64% of local median household income (adjusted MHI; \$43,563). This cost is higher than the Ohio average residential sewer bill of \$626, which is 1.3% of state MHI (\$48,081). By using the WPCLF low-interest financing for this project, Akron has minimized the cost and the economic impact on residents and the local economy of this public health and water quality improvement project.

#### **D. Public Participation**

Akron published in January 2015 the list of anticipated WPCLF projects, including this one, and requested public comments. No comments were received. Akron in February 2016 announced on the city web page the initial traffic detours for this project.

This project requires no additional rate increase and Ohio EPA is unaware of controversy about or opposition to the project.

The following agencies reviewed this project's planning information:

Ohio Environmental Protection Agency  
State Historic Preservation Office  
Ohio Department of Natural Resources  
U.S. Army Corps of Engineers  
U.S. Fish and Wildlife Service

None of the agencies opposes the project.

Ohio EPA will make a copy of this document available to the public on its web page <http://epa.ohio.gov/defa/ofa.aspx> (scroll down to and click on "WPCLF Documents for Review and Comment").

#### **E. Reasons for a Preliminary Finding of No Significant Impact**

Based on its review of general plans, detail plans, contract specifications, and other project information, Ohio EPA concludes that no significant short-term or long-term adverse direct environmental impacts will result from the project as related to the environmental features discussed in this Environmental Assessment. This is either because these features do not exist in the project area, the features exist but will not be

adversely affected, or the impacts of construction will be temporary and mitigated.

This project equally serves the entire Akron community, so no particular segment of the community will bear additional adverse impacts or be deprived of environmental benefits, compared to any other segment.

For these reasons, this project, alone or in combination with other projects, is not expected to result in any significant direct, indirect or cumulative short-term or long-term adverse environmental impacts.

Ohio EPA expects the economic impact of the project on the average user to be acceptable because Akron has lowered the cost and local economic impact as well as ensuring Akron residents will be employed on the project.

The project is expected to help ensure safe conveyance of expected sewage flows to the Water Reclamation Facility as part of Akron's overall comprehensive program of combined sewer overflow elimination.

For more information, please contact:

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